

(19) World Intellectual Property  
Organization  
International Bureau



PCT

(43) International Publication Date  
23 December 2004 (23.12.2004)

(10) International Publication Number  
**WO 2004/111271 A3**

(51) International Patent Classification<sup>7</sup>: C12Q 1/68,  
C12N 15/11

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(21) International Application Number:  
PCT/NL2004/000428

(22) International Filing Date: 16 June 2004 (16.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
PCT/NL03/00444 17 June 2003 (17.06.2003) NL

(71) Applicant (for all designated States except US): KEY-GENE N.V. [NL/NL]; Agro Business Park 90, NL-6708 PW Wageningen (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): VAN ELJK, Michael, Josephus, Theresia [NL/NL]; Pastoor Strijboschstraat 12, NL-5373 EJ Herpen (NL).

(74) Agent: EXTER POLAK & CHARLOUIS; Attn.: Mr. dr R. -J. de Lang, Sir Winston churchillaan 297a, P.O. Box 3241 GE Rijswijk (NL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:  
17 March 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/111271 A3

(54) Title: MEANS AND METHOD FOR THE DETECTION OF TARGET NUCLEOTIDE SEQUENCES USING LIGATION ASSAYS WITH IMPROVED OLIGONUCLEOTIDE PROBE PAIRS

(57) Abstract: A pair of oligonucleotide probes comprising a first oligonucleotide probe that comprises a first clamp section that is capable of hybridising to a second clamp section of a second oligonucleotide probe and a first target section that is capable of hybridising to a first section of a target DNA sequence to be detected, a second oligonucleotide probe that comprises a second clamp section that is capable of hybridising to the first clamp section of the first oligonucleotide probe and a second target section that is capable of hybridising to a second section of the target DNA sequence to be detected.

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
23 December 2004 (23.12.2004)

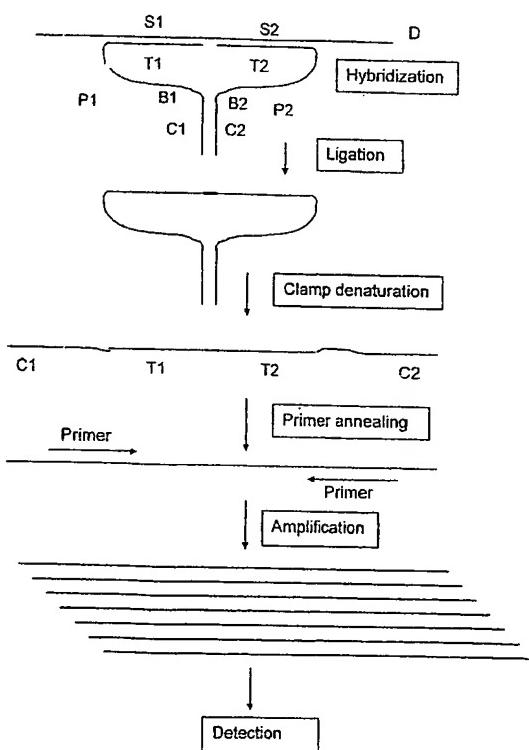
PCT

(10) International Publication Number  
**WO 2004/111271 A2**

- (51) International Patent Classification<sup>7</sup>: C12Q 1/68 Josephus, Theresia [NL/NL]; Pastoor Strijboschstraat 12, NL-5373 EJ Herpen (NL).
- (21) International Application Number: PCT/NL2004/000428 (74) Agents: VAN WESTENBRUGGE, Andries et al.; Nederlandsch Octrooibureau, Scheveningseweg 82, P.O. Box 29720, NL-2502 LS The Hague (NL).
- (22) International Filing Date: 16 June 2004 (16.06.2004) (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (25) Filing Language: English (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
- (26) Publication Language: English
- (30) Priority Data: PCT/NL03/00444 17 June 2003 (17.06.2003) NL
- (71) Applicant (for all designated States except US): KEYGENE N.V. [NL/NL]; Agro Business Park 90, NL-6708 PW Wageningen (NL).
- (72) Inventor; and (75) Inventor/Applicant (for US only): VAN EIJK, Michael,

*[Continued on next page]*

(54) Title: MEANS AND METHOD FOR THE DETECTION OF TARGET NUCLEOTIDE SEQUENCES USING LIGATION ASSAYS WITH IMPROVED OLIGONUCLEOTIDE PROBE PAIRS



(57) Abstract: A pair of oligonucleotide probes comprising a first oligonucleotide probe that comprises a first clamp section that is capable of hybridising to a second clamp section of a second oligonucleotide probe and a first target section that is capable of hybridising to a first section of a target DNA sequence to be detected, a second oligonucleotide probe that comprises a second clamp section that is capable of hybridising to the first clamp section of the first oligonucleotide probe and a second target section that is capable of hybridising to a second section of the target DNA sequence to be detected.



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

- *without international search report and to be republished upon receipt of that report*